

Amendments to the ClaimsClaims 1-60 (*cancelled*)

Claim 61. (*new*) A method for maintaining a uniform and consistent length of a liquid test package comprising a plurality of test package components in a capsule chemistry sample liquid analysis system by ensuring that each test package component, which comprises alternating segments of liquid and air, has a predetermined volume, comprising:

(a) selectively aspirating into a first fluid conduit the plurality of test package components in successive cycles, wherein each test package component is aspirated in a separate cycle that begins with a first air segment having a first air volume, and ends with a final liquid segment and a final air segment, in that order, and wherein each final air segment has a final air volume;

(b) transferring in sequence the test package component from each cycle from said first fluid conduit to a second fluid conduit;

(c) controlling or altering the volume of the final air segment of each test package component as it enters the second fluid conduit;

(d) transferring each test package component from said second fluid conduit to a third fluid conduit;

(e) controlling or altering the volume of the first air segment of each test package component as it enters the third fluid conduit.

Claim 62. (*new*) The method of claim 61(c), wherein the volume of the final air segment in the second fluid conduit is controlled or altered by detecting an interface between the final liquid segment and an adjacent air segment that is not the final air segment, at a reference location along the
5 second fluid conduit corresponding to a predetermined volume equal to the sum of the preferred volume of the final air segment and the final liquid segment.

Claim 63. (*new*) The method of claim 62, wherein the reference location is a fixed distance along the second fluid conduit that corresponds to a predetermined fixed volume within the second fluid conduit.

Claim 64. (*new*) The method of claim 63, wherein the volume of the final air segment in the second fluid conduit is controlled or altered by shearing the final air segment of the test component at the interface of the first air segment of the adjacent test component by stopping the aspiration of a test
5 package component currently being aspirated into the first fluid conduit.

Claim 65. (*new*) The method of claim 61(e), wherein the first air segment enters the third fluid conduit adjacent to a first liquid segment, such that the first liquid segment and the first air segment are the next-to-last and last liquid and air segments, respectively, entering the third fluid conduit.

Claim 66. (*new*) The method of claim 65, wherein the volume of the first air segment in the third fluid conduit is controlled or altered with a valve after detecting an interface between the first air segment and the first liquid segment at a reference location along the third fluid conduit, and stopping
5 the flow of the test package component in the third fluid conduit.

Claim 67. (*new*) The method of claim 66, wherein each test package component in the third fluid conduit flows a predetermined distance, first in the forward direction and then in the reverse direction, in order to detect the interface between the first air segment and the first liquid segment.

Claim 68. (*new*) The method of claim 67, wherein the interface is detected when the test package component flows in the reverse direction.

Claim 69. (*new*) The method of claim 66, wherein the valve controls or alters the volume of the first air segment after a predetermined time delay.